

# GLOBALHEALTH & INTERNATIONALMEDICINE

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Sabanas is located in the central mountains of Honduras, slightly west of Siguatepeque. Sabanas is home to 165 residents, most of whom participated in this research.

## Evaluating the Environmental Health Benefits of using Hybrid Justa Stoves in Sabanas, Honduras

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### STUDYDESIGN

*Phase I:* Pre-stove research and development

*Phase II:* Stove construction and installation

*Phase III:* Post-stove evaluation and analysis



Indoor air pollution is responsible for 2.7 percent of the global burden of disease

More than 1.6 million people die each year as a result of respiratory diseases related to indoor air pollution

The majority of mortality cases due to indoor air pollution occur among women and children

### GLOBALBURDEN of INDOORPOLLUTION



Lauren Stanisic

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## MEASUREMENT STANDARDS

*Total suspended particulates (TSP)*

Most damaging when measured at 10 µm or less

*Carbon Monoxide (CO)*

Most damaging when measured at 10 ppm or more

*Environmental health respiratory survey*

*Wood-burning efficiency survey*



## TSP RESULTS

A paired samples t-test revealed a statistically significant difference in the levels of TSP from Phase I to Phase III

A dramatic reduction in the levels of TSP were recorded from Phase I to Phase III

## CO RESULTS

Following installation of the new stoves, only two homes recorded a CO reading above 0 ppm

Reduction in CO levels was statistically significant, a p-value of < 0.0001

## SURVEY RESULTS

The majority of program participants reported less coughing, less phlegm, less wheeziness and less shortness of breath after installation of the new stoves

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